ANALYST:		VPDES NO	

Parameter: Chemical Oxygen Demand (COD)
Method: Colorimetric (Closed Reflux)
06/05

METHOD OF ANALYSIS:

	18th Edition of Standard Methods 5220 D
	EPA Methods for Chemical Analysis 410.4
	HACH Method 8000

		Y	N
1)	Are samples preserved at time of collection with H_2SO_4 to pH of < 2 and cooled to 4°C? [40 CFR]		
2)	Are culture tubes used supplied with Teflon® lined screw caps? [SM -5220 C.2.a; 410.4-5.2]		
3)	Are culture tubes and caps washed with 20% H_2SO_4 before their first use? [SM -5220 C.4; 410.4-7.1]		
4)	Is 100 mLs of sample homogenized if using HACH? [HACH-1]		
5)	Are the appropriate vials used for testing? Note that the HACH 0-40 mg/L and 0-15,000 mg/L vials are not USEPA approved. [SM -5220 C.4; 410.4-7.2.1/ 7.3.2; HACH-3]		
6)	Is reactor/digestion unit allowed to warm to 150°C ± 2°C? [SM -5220 C.2.c & 4 ; 410.4-7.2.6/ 7.3.6; HACH-2]		
7)	Is sulfuric acid reagent carefully run down side of vessel after the sample has been added to the vial? [SM -5220 C.4; 410.4-7.2.3/ 7.3.4]		
8)	For HACH method, is vial containing acid reagent held at a 45° angle while 2.0 mL of sample is added? [HACH-4]		
9)	Are the vials mixed thoroughly prior to applying heat? [SM -5220 C.4; 410.4-7.2.4/ 7.3.5; HACH-6]		
10)	Are the vials allowed to digest for 2 hours? [SM -5220 C.4; 410.4-7.2.6/ 7.3.6; HACH-8]		
11)	Are the vials allowed to cool to room temperature after digestion? [SM -5220 C.4; 410.4-7.2.7/ 7.3.7; HACH-10]		
12)	Are the vials inverted several times after digested samples have cooled? [SM -5220 D.4.b; HACH-10]		
13)	Does the calibration curve consist of blank and at least 5 standards and have a calibration coefficient of ≥0.995? [SM-5220 D.4.c; Permit]		
14)	Are standards analyzed in order of decreasing concentration? [410.4-7.2.7]		
15)	Is an existing curve verified each day by a blank and two standards that bracket the sample values with recovery of ≤ 5%? If not, is a new curve established? [SM 5220 D.4.c; Permit]		
16)	Are solids allowed to settle prior to measuring absorbance? [SM 5220 D 4.b; Permit]		
17)	Is absorbance read on a spectrophotometer set to 600 nm for EPA & SM, 620 nm for HACH 0-1500 mg/L procedure, or 420 nm for HACH 0-150 mg/L procedure? [SM 5220 D.4.b; 410.4-7.2.8/ 7.3.7; Mfr.]		
18)	If needed, is the sample value correctly calculated? COD mg/L = $\frac{\text{mg } O_2 \text{ in final volume X } 1000}{\text{mL sample used}}$		

PROBLEMS: